NOTES ON *SPERMACOCE* AND *MITRACARPUS* (RUBIACEAE) IN SOUTHEASTERN UNITED STATES

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While preparing the Rubiaceae for my forthcoming Flora of Subtropical Florida (a 30 county area extending from Levy, Marion, and Volusia County south to Lee, Hendry, and Broward County), the genus *Spermacoce* was investigated in detail, both within and to the south of the manual range. This has resulted in the employment of several names not found in recent manuals. In addition, a species new to the flora of Louisiana was discovered.

Spermacoce is traditionally distinguished from *Borreria* on the basis of mericarp dehiscence. *Borreria* mericarps separate into two one-seeded halves with each half open on the inner surface while those of *Spermacoce* separate with the central axis remaining attached to one-half and remaining closed and the second half open on the inner surface. This difference does not appear to be significant enough to warrant generic segregation of *Borreria* from *Spermacoce*. Thus, with *Borreria* congeneric with *Spermacoce*, the genus consists of five species in peninsular Florida (Levy, Marion, and Volusia County southward).

Key to Species

1. Calyx with 4 subequal teeth; inflorescence in terminal and axillary glomerules well down on the stem.
    2. Leaves and stems glabrous or scabrous.
        3. Plants annual; fruits 1-2 mm long.
            4. Calyx-teeth solid dark-green..... 3. *S. tenuior*
            4. Calyx-teeth bright-green with conspicuous white margins..... 2. *S. prostrata*
        3. Plants perennial; fruits 2.5-3.0 mm long..... ..... 1. *S. assurgens*
    2. Leaves and stems conspicuously hirsute..... ..... 4. *S. tetraquetra*
1. Calyx with 2 long and 2 short teeth; inflorescence in a single dense terminal glomerule or only at upper 1-2 nodes.. ..... 5. *S. verticillata*

1. *Spermacoce assurgens* Ruiz & Pavon This species occurs in moist areas in pine flatwoods, along the edge of mesic hardwood hammocks, and waste ground in Florida. It is of frequent occurrence nearly throughout the peninsula as well as throughout subtropical and tropical America.

This plant has been going under the name of *Borreria laevis* (Lam.) Griseb. in manuals pertaining to Florida plants (Small, 1933; Long & Lakela, 1976). However, this is a totally different species.

2. *Spermacoce prostrata* Aubl. This species occurs along pond margins, moist areas in pine flatwoods, waste ground, and moist depressions of coastal dunes and sand flats in Florida. It is occasionally encountered in scattered localities nearly throughout the peninsula and is a widely distributed weedy species in the American tropics. This plant is usually incorrectly called *Borreria ocimoides* (Burm. f.) DC. in most floras pertaining to Florida (Small, 1933; Long & Lakela, 1976). *Borreria ocimoides*, however, is a totally different species confined to the Paleotropics.

3. *Spermacoce tenuior* L. This species occurs in wet areas in pine flatwoods, along margins of ponds, limestone pockets, and waste ground in Florida. Specimens have been seen only from Dade and Monroe Counties in southern Florida. However, it is of frequent occurrence elsewhere in tropical America. *Spermacoce keyensis* Small (Small, 1933), belongs here. *Spermacoce portoricensis* Balb., reproted by Small (1903) and later suppressed by him under *S. keyensis*, is actually *Hemidiodia ocimifolia* (Willd.) K. Schum., a species not known to occur in Florida. Long (1970) regarded the south Florida material as distinct and proposed the name *S. tenuior* var. *floridana* (Urban) Long. From the material I have examined, it does not appear to be separtable from other *S. tenuior* from the Caribbean.

4. *Spermacoce tetraquetra* A. Rich. This species occurs in moist pine flatwoods, along the edge of hammocks, limestone pockets, and waste ground in Florida. Specimens have been seen only from Dade, Monroe, and Collier County. Outside of south Florida, specimens have been seen from Cuba and the Bahamas. Alain (1963) reports it from Bermuda, Jamaica, and Honduras, but no specimens have been seen to confirm this.

5. *Spermacoce verticillata* L. This species occurs in pine flatwoods, limestone pockets, and waste ground in Florida. Specimens have been seen from Dade, Collier, Monroe, Palm Beach, and Martin County. It is frequently encountered throughout much of tropical America and also is found in tropical Africa. This species is often placed in *Borreria* [=*Borreria verticillata* (L.) Meyer]. *Borreria terminalis* Small (Small, 1933; Long & Lakela, 1976) belongs here.

Spermacoce confusa Rendle Although no specimens of this species have been seen from Florida, it is to be expected since it is a weedy species common in the Neotropics and Paleotropics.

Several specimens from south Florida identified by other workers as this species have been examined and discovered to be misidentifications of *S. tetraquetra*.

Mitracarpus hirtus (L.) DC. A weed of waste places in tropical America, this species has previously been reported (as *Mitracarpus villosus* (Sw.) DC.) as occurring in continental United States (Correll & Johnston, 1970) and central Florida (Ward, 1976). In the course of examining materials of *Spermacoce*, a previously undetected specimen of *M. hirtus* from Louisiana was encountered. This apparently represents the first record of it from that state. I choose to follow Nicolson (1977) in using the name *Mitracarpus hirtus* (L.) DC. rather than *Mitracarpus villosus* (Sw.) DC. for this taxon.

Louisiana: St. Tammany Parish: Waste place along RR, Abita Springs, 3 October 1970. *John W. Thieret 32568* (FSU).

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